



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,240	04/12/2001	Seshi R. Sompuram	1159.1008-005	5834
21005	7590	12/22/2003	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			MONDESI, ROBERT B	
			ART UNIT	PAPER NUMBER
			1653	

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/834,240

Applicant(s)

SOMPURAM ET AL.

Examiner

Robert B Mondesi

Art Unit

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 12, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 8-13, 20-22, 24 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6, 14, 23 and 25 is/are rejected.
- 7) ☒ Claim(s) 2-5, 7 and 15-19 is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

The current application filed on April 12, 2001 is CON of non-provisional application 09/549,855 filed on April 14, 2000, which is CIP of non-provisional application 09/291,351 filed on April 14, 1999.

Preliminary Amendment

The preliminary amendment filed October 30, 2003 has been entered. **Claims 1-26** are pending in this application. **Claims 8-13, 20-22, 24 and 26** have been withdrawn because they pertain to non-elected groups.

Information Disclosure Statement

The Information Disclosure Sheets (IDS)s filed August 15, 2002 and January 07, 2002 have been received, signed and considered, a copy of the (IDS)s is attached to the following document.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is an improper Markush Group wherein a nucleic acid "sequence" is grouped incorrectly with proteins, peptides and carbohydrates. The proper grouping would be: proteins, peptides, nucleic acids and carbohydrates.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 14, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. US Patent 4,526,921 in view of Butterfield et al. US Patent 6,017,522. Sakurai et al. teach that isocyanate groups increase the adhesive strength of a silane-treated glass surface (column 5, line 13-16). Sakurai et al. do not teach that the amine groups on proteins or biological molecules can react with isocyanate groups to form a covalent bound. Butterfield et al. teach that the amine groups on proteins or biological molecules can react with isocyanate groups to form a covalent bound (column 14 line 52-64 and column 15 line 56 to 66). Butterfield et al. teach further that the isocyanates may be end capped (Column 15, lines 55-67 and

Art Unit: 1653

column 16, lines 1-6). Since Butterfield et al. have shown that end capped isocyanate groups can covalently bind biological molecules such as proteins and Sakurai et al. have taught that the combination of a silane-treated glass surface and isocyanate provides a strong adhesive base, one of ordinary skill in the art would have combined Sakurai et al. and Butterfield et al. for the advantages of an improved glass surface capable of binding biological molecules. In order to analyze biological molecules such as proteins using methods such as; microscopy, protein array systems or immunohistochemistry, it is extremely important to maintain the attachment of biological molecules and various surfaces such as a glass surfaces. A variety of methods have been established in the art to accomplish such a task, for example the production of silane-treated glass slides. It is known in the art that silane-treated glass slides have increased adhesiveness. Since this is known, the next move would have been to specifically target proteins as a candidate for increased attachment to these silane-treated glass slides. The use of end capped isocyanate groups would have been a logical step in order to accomplish the mentioned objective. As combined, Sakurai et al. and Butterfield et al. demonstrate that one of ordinary skill in the art would have made and used the claimed invention prior to the time the claimed invention was made. Thus the claimed invention would have been prima facie- obvious at the time it was made.

Conclusion

Claims 1, 6, 14, 23 and 25 are rejected.

Art Unit: 1653

Claim 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


Claims 2-5, 7 and 15-19 are objected for depending from a rejected base claim.

Claims 2-5, 7 and 15-19 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert B Mondesi whose telephone number is 703-305-4445. The examiner can normally be reached on 9am-5pm, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached on 703-308-2923. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0198.


Robert B Mondesi
Patent Examiner
Group 1653
12-10-03



ROBERT A. WAX
PRIMARY EXAMINER